

# Old head on young shoulders

Over the past 20 years IT infrastructure in ports has transitioned from fairly rudimentary models into incredibly advanced systems, with Tideworks Technology playing a significant part in this transformation. Emmanuel Mair reports

In certain business sectors, 20 years is not a huge amount of time. Take cargo lifting equipment, for example. Sure, machines are bigger and more fuel-efficient, but progress has been very much evolutionary rather than revolutionary.

That's not the case in the tech sector, however, where 20 years is long enough to seem like several lifetimes. Remember Myspace? Tideworks Technology is celebrating its 20th anniversary this year, and as far as container port IT infrastructure is concerned, rather than a youth making the transition from teenage life to adulthood, the company is a veteran.

In the 1990s the then CEO of SSA Marine, Jon Hemingway, was keen to develop the terminal operator's IT department. SSA was enjoying a period of expansion on the West, Atlantic and Gulf coasts of the USA, with numerous terminal investments and projects coming to fruition.

Tideworks' current president, Thomas Rucker, told CM: "During this expansion, the business strategy started to embrace partnerships and gains sharing with local partners, cargo interests, carriers and a wide variety of contacts and business frameworks."

IT was among the shared services that SSA provided to these business units, and it had a large front-end software component, which was the predecessor to Tideworks. "The pricing of IT services, capitalisation and transfer of costs became tricky, so Jon decided that the best way to ensure ongoing improvement in our information systems was to create Tideworks," explained Rucker.

Hemingway's vision was for Tideworks to maintain some continuity on the affiliate side but also to go out and sell on the open market. In Rucker's view, this was a logical progression. As vessels got larger, SSA's terminal operating system (TOS) matured, becoming more reliant on intelligent systems to track and trace cargo. Planning and executing moves was critical and gate volumes were increasing sharply.

"We needed to ensure that our systems fitted our specific operations and the evolving needs of our workforce and customers as we continued to improve our efficiency and reliability," he explained. "We also needed to assure our partners and customers that we offered the most cost-effective and reliable solutions available, which were geared for each operating environment and workforce."

"This has remained key to realising the best operating results for our operations and those of others. Competing for the software and system integration business offered us the benchmark to gauge our effectiveness in this mission together

with our operating metrics in each location where we operate."

Hemingway appointed Michael Schwank as president of Tideworks, wanting him to spearhead the company with his strong operations background. Rucker reflected: "I think he was the perfect fit because he was very operations-focused and he had the end user in mind. He also had an incredible foundation of culture from SSA."

## RUDIMENTARY BEGINNINGS

Back then, IT solutions for container terminals were fairly rudimentary compared with today's systems. Tideworks' first solution was a marine terminal management system (MTMS), an application based on an IBM AS/400 platform. There were no planning or execution systems on it and the system also lacked flexibility as it was "hard coded" around Tideworks' operations.

In 1999, the idea of building its own graphical planning system came up. With vessel sizes increasing, the purpose was to make it easier to obtain a visual representation of a bay plan or the yard in order to improve the overall planning process. This turned out to be the birth of Spinnaker, Tideworks' planning management system. Further development followed in an aggregate growth pattern and, after Spinnaker, work started on developing Traffic Control, which is the company's execution platform.

Rucker stated: "Traffic Control would take those planned moves on and off a vessel or in and out of a gate, and it would execute that work instruction against the container handling equipment – this is where we started to advance our mobile

This page  
Below:  
Tideworks president  
Thomas Rucker

Opposite page:  
Top + middle:  
Spinnaker today (top)  
compared with an  
early version of the  
system (bottom)  
Bottom:  
Mainsail 10 will be  
launched later this  
year



solutions offerings. Therefore, we would develop a variety of applications that would sit on a mobile data unit that was inside the actual container handling equipment itself."

Traffic Control gave users the ability to dissect the yard into zones or queues and assign equipment to those specific areas, allocating work for individual pieces of container handling equipment.

The growth of new solutions was rapid at the time, and this was followed by 5–7 years of considerable refinement to these tools. Eventually, Tideworks reached the point where the functionality of its marine TOS closely mirrored the functional needs at intermodal rail terminals, which led the company to develop an intermodal tool.

"This basically thrust us into a whole different commercial segment, which we've had really good success in," noted Rucker. Today the company's systems are in use at more than 30 sites run by US and Canadian rail operator CSX, which constitutes "one of the largest efforts" the service provider has undertaken, according to Rucker.

That order demonstrated what Tideworks is capable of doing, he said, adding: "I don't know too many organisations in our space that could have kept pace with the needs of such a large-scale project. It's a testament to how we really develop relationships with our clients and work with them to solve problems."

One of Tideworks' most impressive tools, according to Rucker, was launched in 2017. He believes that Tideworks Insight, a data platform, is so significant because it "brings everything together". The tool allows terminals to implement a series of key performance indicator (KPI) dashboards and business intelligence tools to help improve margins and monitoring operations to ensure the smooth running of the terminal.

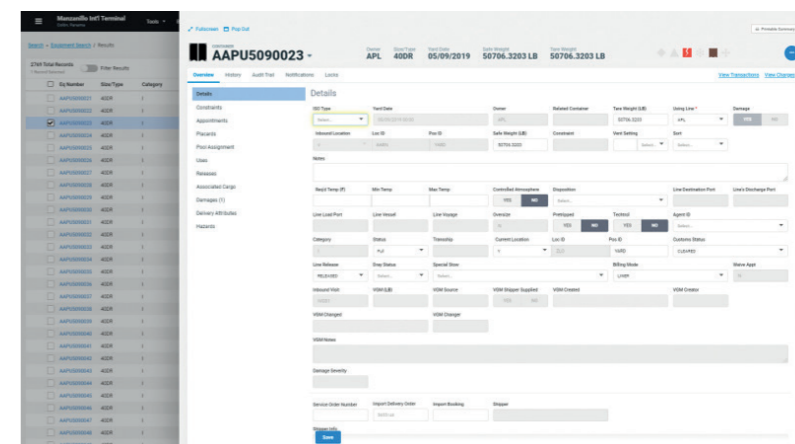
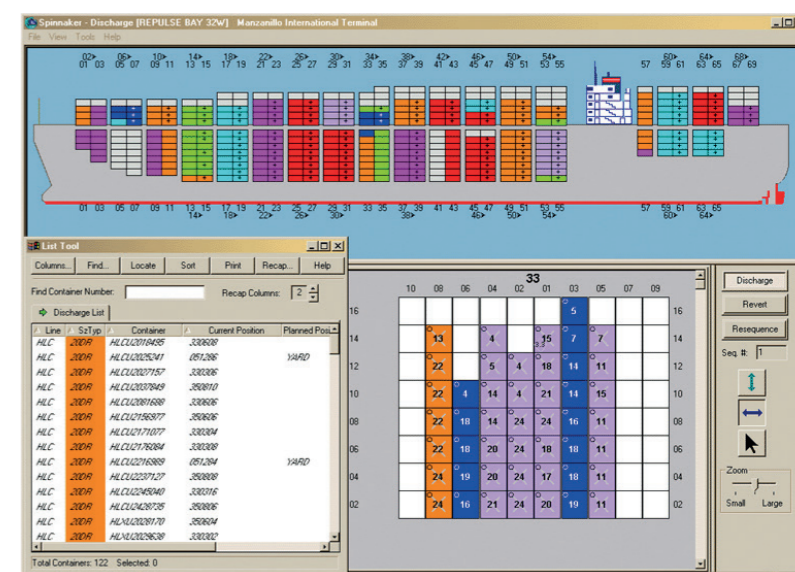
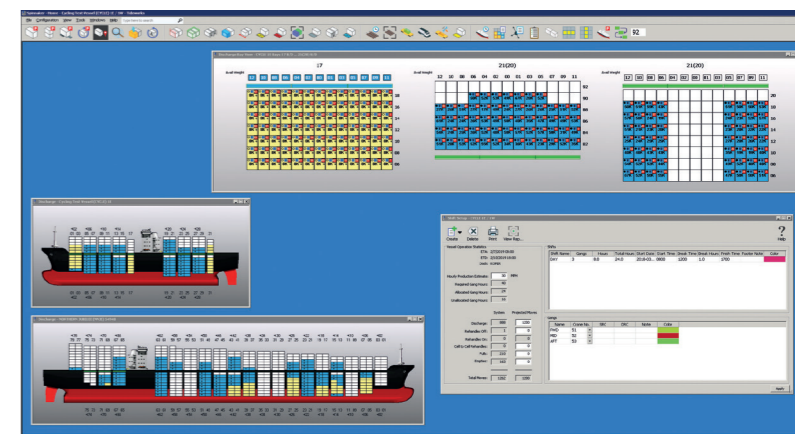
With data so critical to modern-day business practices, Tideworks Insight uses proprietary data cleansing, streaming and storage to deliver reliable datasets for terminals, enabling them to apply predictive analytics from an accurate baseline.

## BUILDING RELATIONSHIPS

Aside from the constant drive to deliver innovative solutions, one of the company's strong points, according to Rucker, is its relationship-oriented culture. "Instead of becoming a one-off vendor for a terminal, we like to develop relationships, getting to understand the customer and their needs," he stated. "Our founding members really emphasised the importance of this aspect for years, and we've embraced it. We don't just go in, implement a solution, then leave and try to monetise it."

Looking ahead, the IT solutions provider will be very busy in the coming months, with the launch of its next-generation TOS Mainsail 10 scheduled before the end of the year. It is also adapting the architecture of its portfolio of solutions under a "micro-services" concept which allows services to be compartmentalised, improving the process of test automation and boosting response speed to customers. In addition to Mainsail 10, a number of other enhancements will be released to clients.

Spinnaker is still going strong today, with South Carolina Ports Authority (SCPA) going live with the solution at the Port of Charleston's Wando Welch and North Charleston terminals earlier this year. The second phase of this project will include the implementation of Mainsail, Traffic Control, Terminal View (the



company's 3D data visualisation system) and Tideworks Insight.

Looking further into the future, where does Rucker see the company in another 20 years' time? "The future of Tideworks includes modernised apps," he said. "We are on the journey to modernising our platform. In addition, we'll be an even stronger player in the intermodal space. We're looking for opportunities and adjacencies in the marine and the intermodal space and additionally in other commercial segments that align well with Tideworks and our parent company Carrix."

The company is also looking at a variety of emerging technologies to see how they can benefit terminal operations. "In terms of how we position ourselves in the market as a relationship-driven TOS provider – that's something that will never change," Rucker concluded. ●